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ABSTRACT

Although the National Workplace Literacy Program is relatively new, a new orthodoxy of program development based on particular understandings of literacy and learning has emerged. Descriptions of two model workplace education programs are the beginning points for an examination of the assumptions contained in most reports of workplace education programs. For instance, most programs use the term "functional literacy" to describe program content. By accepting a narrow definition of literacy, programs risk limiting their scope and impact on the workplace and on learners' lives. An exploration of assumptions programs make about curriculum and curriculum development reveals that most claim to customize their curriculum through job task analyses or literacy audits. Literacy audits lead almost always to lists of skills and subskills rather than to a broader understanding of teaching and learning literate practices. An examination of assumptions about teachers and teaching reveals that program descriptions rely on teacher qualifications, facts about instructional settings, and "contact" hours. New conceptions of teaching and learning as active, constructive processes rather than as transmission of skills are needed. Five sets of matrices have been proposed to conceptualize workplace education programs based on definitions of literacy, curriculum and curriculum development, teaching and learning, partnerships and participation, and success. (Contains 105 references.) (YLB)

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# TRAINING FOR BASIC SKILLS OR EDUCATING WORKERS?: CHANGING CONCEPTIONS OF WORKPLACE EDUCATION PROGRAMS

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# TRAINING FOR BASIC SKILLS OR EDUCATING WORKERS?: CHANGING CONCEPTIONS OF WORKPLACE EDUCATION PROGRAMS

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## EXECUTIVE SUMMARY

Federal funding for workplace education programs in the United States began in the late 1980s in response to a widely held public perception that the global competitiveness of this country depended upon increasing the literacy levels of its workers (*The Bottom Line*, 1988; Johnston & Packer, 1987). Although reluctant at first to invest in workplace education programs, companies are deciding in increasing numbers to establish these programs. As workplace education programs become more prevalent, this is a critical moment to both take stock of what is happening in the existing programs and to describe new possibilities for future projects. For this review, I chose to examine the programs funded by the National Workplace Literacy Program which was created in 1988 under the auspices of the U.S. Department of Education. Although these workplace programs funded by the federal government are relatively new, a survey of the literature and program reports suggests that a new orthodoxy of program development, based on particular understandings of literacy and learning, has already emerged. I offer a set of matrices which can be used to examine the assumptions behind workplace education programs in order to expose the new orthodoxy, to interrogate whether we should rush so quickly into accepting a single way of conceptualizing and designing programs, and to suggest ways to change or at least broaden the dominant paradigms.

Beginning with written descriptions of two model workplace education programs—one from the service sector, the other from the manufacturing sector—I examine the assumptions contained in most reports of workplace education programs. For instance, most programs use the term "functional literacy"—the skills needed to perform work or function in society—to describe the content of their programs. I explore the meanings and limitations of this term and suggest other, less narrow, ways to conceptualize literacy.

I argue that, in their acceptance of a narrow definition of literacy as functional literacy, programs risk limiting their scope and thus their ultimate impact on both the workplace and on learners' lives. When learners are presumed to be functionally illiterate, the multiple ways in which they use literacies—both their native and second language literacies—in their daily lives, in their work, home, and community settings, are left untapped. The definition of literacy as "functional literacy" necessarily constrains both curriculum and instruction by tying teaching to the delivery of discrete skills and curriculum to a sequence of lessons in which competencies are mastered and assessed. As an alternative, broader and more inclusive understandings of teaching and learning may be

more appropriate to the new workplace. At the same time, the changing workplace which requires new ways of interaction necessarily expands the definition of literacy beyond isolated skills to the notion of literacy as social practices and critique.

In a similar manner, I explore the assumptions made by programs about curriculum and curriculum development. As with the definitions of literacy, a dominant paradigm for developing curriculum exists in workplace education programs. Most programs claim to "customize" their curriculum; in other words, they adapt the curriculum to the local context. Many programs use procedures called "job task analyses" or "literacy audits" to develop what is termed a "functional context curriculum." In fact, this method of curriculum development has become axiomatic with workplace education programs. What is striking about literacy audits is that they almost always lead to lists of skills and subskills rather than to a broader understanding of teaching and learning literate practices. Furthermore, and perhaps even more importantly, the dominant ideology which supports this single way of conceptualizing the curriculum necessarily limits the possibilities for teaching and learning in these programs.

An examination of the assumptions about teachers and teaching in workplace education programs reveals that most descriptions of this aspect of programs rely on the following information: qualifications of teachers; facts about the instructional settings (e.g., the number of computers, the type of space); and the number of "contact" hours (i.e., hours learners spend in classrooms or literally in "contact" with teachers). While programs occasionally suggest that particular instructional techniques are used, they rarely detail their pedagogy or theories of teaching and learning. Similarly, programs frequently describe learning in terms of the number of contact hours, with the often unstated presumption that a particular number of contact hours can be correlated to predictable advances in learning. In addition, while most programs assert that standardized tests do not accurately measure either the knowledge employees bring to programs and, what is perhaps more problematical, the knowledge they gain through participation in programs, nearly every program uses these measures and reports the test scores.

I argue that these ways of describing teaching and learning, and of describing teachers and learners reinforce an essentially Tayloristic view of work, a perspective which advocates a system of mass production based on breaking work into its smallest and most basic elements and defining jobs narrowly so that they are relatively easy to learn. Thus, while U.S. companies are introducing new forms of work organization, with new

participation structures and patterns of interaction, many are choosing to teach and evaluate their employees with traditional methods. Reorganized companies are asking workers to become active learners in the workplace and passive students in the classroom. The reorganization of work and workplaces calls for new conceptions of teaching and learning as active, constructive processes rather than the transmission of skills. As workplace education programs become more prevalent across the country, rather than accepting a single model for their design and implementation, it is critical that program designers explore a wide range of possibilities.

In the final section, I offer five sets of matrices or frameworks to conceptualize workplace education programs based on definitions of literacy, curriculum and curriculum development, teaching and learning, partnerships and participation, and success. I argue that these matrices will be useful to program planners and instructors, policymakers, and researchers to classify and understand existing programs and to imagine a wide range of possibilities for future workplace programs. These matrices will help to clarify the decisions program directors make, the assumptions held by various partners, and the range and variation of programs across the country. In addition, they offer new ways for programs to conceptualize their purposes, their ways of operating, and for assessing their programs. Perhaps most importantly, these matrices suggest the possibility for both challenging and changing the new orthodoxy that has already beset workplace education programs.

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## INTRODUCTION

Federal funding for workplace education programs in the United States began in the late 1980s in response to a widely held public perception that the global competitiveness of this country depended upon increasing the literacy levels of its workers (*The Bottom Line*, 1988; Johnston & Packer, 1987; *Workplace Literacy*, 1992). For example, the Hudson Institute's report, *Workforce 2000* (Johnston & Packer, 1987), predicted shortages of skilled workers based on the following trends: changing demographics in the workforce toward an increase in women, minorities, and older workers, populations which presumably have been least well-served by traditional schooling; an increase in the demand for high skilled workers as a result of the movement toward technologically sophisticated workplaces; and the increasing openness of the U.S. economy to foreign competition (see Mishel and Teixeira [1991] for a critique of this prediction).

Despite complaints about how underprepared U.S. workers are for current and future jobs, private companies traditionally have been reluctant to invest in workplace education. (For a critical discussion on the popular discourse of workplace literacy, including an analysis of the position that workers lack skills, see Hull [in press].) Most estimates of spending by companies for formal training suggest that they spend one to two percent of their payrolls on training programs (Carnevale, Gainer, & Villet, 1990). Only about thirteen percent of the employees in U.S. companies participate in on-the-job-training, and most of these participants are highly educated personnel, not entry-level workers (McGraw, 1990). A recent survey of the need for and availability of training corroborates this tendency to provide training to more highly educated workers and to workers in managerial positions rather than to laborers (Bowers & Swain, 1992).

However, this trend may be changing. A recent issue of *Fortune* magazine (Dreyfus, 1990) reports a survey of large corporations by American Society for Training and Development (ASTD) which found that ninety-three percent of the surveyed companies plan to offer some type of basic skills course to their employees by 1993. Still, while workplace education programs are becoming increasingly prevalent in large companies, smaller businesses, which account for nearly ninety-nine percent of the businesses in the United States (McGraw, 1990), continue to struggle to find ways to afford these programs. Only a small fraction of the small businesses surveyed by the Southport Institute on Policy

Analysis in 1992—three to five percent—had implemented a workplace education program (Chisman, 1992).

In response to a perceived skill gap between the needs of businesses and companies and the qualifications of U.S. workers, the National Workplace Literacy Program was created in 1988 through the Hawkins and Stafford Elementary and Secondary School Improvement Amendments of 1988 with the explicit purpose to fund projects designed to improve the productivity of the workforce through the improvement of literacy skills. This program, funded under the auspices of the U.S. Department of Education, has recently completed its third cycle of funding. To receive a grant from this program, businesses, industry, and labor unions are required to form partnerships with educational organizations to design and implement programs. To date, the National Workplace Literacy Program has awarded 149 grants to more than 361 businesses in 42 states and territories, with the largest number of businesses in the manufacturing sector. (For a more complete description of this program see *Workplace Literacy: Reshaping the American Workforce* [1992].)

At the same time that attention has been focused on education programs in the workplace, there has been considerable discussion and major advances in our thinking about literacy and learning by literacy researchers and practitioners. There have been few critical attempts to assess the current workplace education programs in order to suggest future directions for research and practice. (For exceptions see Kutner, Sherman, Webb, & Fisher, 1991; *Workplace Literacy*, 1992.) As workplace education programs become increasingly prevalent, this is a critical moment both to take stock of what is happening in the existing programs and to describe new possibilities for future projects. Although these workplace programs funded by the federal government are relatively new, a survey of the literature and program reports suggests that a new orthodoxy of program development, based on particular understandings of literacy and learning, has already emerged. In this report, I suggest new ways to conceptualize workplace education programs in order to uncover this new orthodoxy and to interrogate whether we should rush so quickly into accepting a single way to envision and design programs.

The plethora of developments of new programs across the country makes it difficult to grasp their range and variation. For this reason, I chose to focus on the programs funded by the U.S. Department of Education through the National Workplace Literacy

Program. These programs are considered by the funders to be exemplary and on the cutting edge. They are also programs which have been given the financial resources and additional time to develop well-thought-out courses of action. As I examined these programs, it quickly became clear that while many promising programs exist in a wide variety of settings, in numerous critical areas most of these programs were essentially identical. Nearly all had adopted a common lexicon. Although these programs have been in existence a relatively short time, a dominant ideology, or a single way to set up projects, has emerged that is accepted almost without question by most programs. An analysis of their assumptions about literacy, curriculum, teaching, and learning helps to describe the current workplace education programs, points to what is missing in most descriptions, and points to new ways of both conceptualizing and enacting programs.

While program developers have been quick to buy into a prescribed way of setting up programs, many have been slower to wrestle with questions of purpose, method, curriculum, pedagogy, and evaluation criteria. This paper will begin this discussion, which I believe is critical to the long-term success of these programs. First, a general description of two workplace education programs will be given in order to ground the subsequent analysis. Second, I will examine assumptions made about literacy, curriculum, teaching, and learning in these and other program descriptions. Third, I will suggest other ways of looking at workplace education programs—through definitions of literacy, curriculum and curriculum development, teaching and learning, partnerships and participation, and success. Finally, I will discuss the implications these alternative ways of looking at workplace education programs have for constructing and evaluating both current and future programs and for shaping an agenda for future research.

## PORTRAITS OF TWO WORKPLACE EDUCATION PROGRAMS

The National Workplace Literacy Program funds workplace education programs in a wide range of workplace contexts. There are very small programs, such as one designed to teach one-hundred fifty immigrant farm workers the skills they need to work in a hotel, and large programs such as one which uses state, local and federal funds to provide basic skills training at twenty-four sites in manufacturing plants to a total of 3,066 employees. Of thirty-seven programs that I examined, thirteen were located in manufacturing firms, fourteen were in service industries, and ten were programs which included a broad mix of

manufacturing and service companies. The range of participants in these programs was from thirty to over three-thousand. Most programs had between two-hundred and five-hundred learners. Of the program materials which I surveyed, most did not mention union involvement (about 70%), a little over half included English as a Second Language (ESL) in their curriculum, and about one-third included a General Equivalency Diploma (GED) or high school equivalency component. Most of the programs (about 70%) seemed to be located at traditionally organized worksites and most were funded for one year by the U.S. Department of Education (see Table 1).

I will begin with portraits of two programs funded by the U.S. Department of Education—one for hotel workers, the second for auto workers. One of these programs, the program for hotel workers, is located in a service industry where work is organized in a traditional manner. The second, the program in an auto plant, was developed in response to a changing work organization in which workers are expected to take on new roles, communicate with a broader range of people, work in teams, use equipment that requires a higher level of technological sophistication, and demonstrate flexibility in both the jobs they are assigned and the ways they accomplish their work. While these program descriptions are not meant to represent all programs in similar workplaces, they typify many of the programs funded by the U.S. Department of Education.[1] I chose these two programs to describe more fully because they represent two types of companies—one service and one manufacturing—and two types of work organizations—one traditionally organized and the other in the process of becoming a "high performance" or reorganized company. Each of these nationally recognized programs is well-established—one has been funded by the U.S. Department of Education for two years, the other for three years—and thus each represents a thoughtful and in many ways exemplary program within the context of federally funded workplace education programs.

[1] In these descriptions and in ones throughout the paper, I have chosen not to identify any of the particular programs. My emphasis is to highlight the information reported by the programs and examine their assumptions, rather than to address their effectiveness.

**Table 1**

**Characteristics of Federally-Funded Workplace Education Programs Reviewed for This Project (N=37)**

| |
|---|
| **Type of business or industry**<br>• manufacturing—35% (13)<br>• service—35% (13)<br>• hospital/health care—14% (5)<br>• hotel/hospitality—8% (3)<br>• office—8% (3)<br>• maintenance—3% (1)<br>• other—3% (1)<br>• mixed (projects including both manufacturing and service)—24% (9)<br>• other—5% (2) |
| **Number of participants**<br>• fewer than 100—24% (9)<br>• 100 to 200—19% (7)<br>• 200 to 500—41% (15)<br>• over 500—14% (5)<br>• not specified—3% (1) |
| **Union involvement**<br>• yes—30% (11)<br>• no (or not mentioned)—70% (26) |
| **English as a Second Language (ESL) classes**<br>• yes—57% (21)<br>• no—43% (16) |
| **General Equivalency Diploma (GED) classes**<br>• yes—33% (12)<br>• no—67% (25) |
| **Reorganized workplace**<br>• yes—14% (5)<br>• some of the workplaces within the project—16% (6)<br>• no or not mentioned—70% (26) |
| **Number of years funded by the federal government (in the first three cycles)**<br>• one year—78% (29)<br>• two years—11% (4)<br>• three years—11% (4) |

The first project provides job-related ESL and literacy instruction with a focus on ESL to hotel industry workers who have entry-level jobs in housekeeping, food and beverage services, and maintenance. The partners involved in the project include two public school systems, the local Chamber of Commerce, and numerous hotels. The basic

goal of this project is to "assist functionally illiterate adults . . . [to] become functionally literate." All of the learners (called "trainees") were considered "functionally illiterate" limited-English proficiency (LEP) employees. In order to develop instructional materials, the program developers followed these common procedures:

> [The program] customized the curricula and instruction to each unique work site by conducting a needs assessment for each workplace class. Next, teachers met with the supervisors, asking them to prioritize their needs. In this way, course content was negotiated jointly among the teacher, employee and employer.

In addition, program designers used the findings from both individual assessments of learners and generic literacy audits at pilot hotels to develop materials. Instructors customized the curriculum with the help of supervisors by selecting units to teach from an array of potential lessons. Prior to this selection process, the instructors met with the hotel supervisors who indicated the content they believed most important for their employees. According to the written descriptions, the employees themselves did not appear to play a significant role in this process. For employees too advanced for the classes, the program offered a skill-based curriculum which used textbooks, audiotapes, interactive audio and videodisks, and computer software in a self-paced learning lab where learners worked on their own. For instance, part of the grant supported the adaptation of videodisks for hotel housekeepers to improve their oral communication skills.

The program used the Basic English Skills Test (BEST) both to screen potential trainees and to measure progress at the end of the program. This test is administered orally through an interview and has a numerical scoring system based on fluency, pronunciation accuracy, control of grammar, and listening comprehension. Although the program directors themselves questioned the validity of this assessment instrument, particularly because it is not specifically designed to be used in a workplace program and its content is geared to a standard ESL course, they used the results of the tests (e.g., gains in English proficiency) to support claims about the success of the program. The final evaluation report notes, however, that large gains are not expected when there are less than one-hundred twenty contact hours of instruction. While supervisors, trainees, and instructors all believed that "more general" English, which would be useful in the learners' daily lives, should be taught, the outside evaluator noted the time limitations of the courses and warned that "workplace subject matter should not be sacrificed for the more general-interest subject matter."

The second workplace education program is located in an auto plant which has recently experienced major changes in production methods and manufacturing equipment. The application for funding submitted by the local vocational technical college to the federal government suggests that as new technology and manufacturing processes have been adopted by the plant, new skills are required of the workers which include interpreting information, effective communication, teamwork, and problem solving. As a result, the application for funding states the following:

> During this conversion from traditional manufacturing to present-day techniques, it had become increasingly obvious that a large percentage of the employees in these plants were functionally illiterate. Many needed to upgrade rusty skills or to develop new interpersonal and communication skills.

The program directors define "a functional illiterate" as "a person not able to read or write well enough to carry out the necessary business one must complete in order to be a productive member of society" and, using statewide statistics, made the assumption that about fifteen percent of their workforce fell into that category.

The workplace literacy program was developed by the local technical college, whose instructional specialists customized its core curriculum to the company's needs. Managers and union representatives were involved in curriculum development and program evaluation. For instance, they identified skills that needed enhancement and forty-one key job tasks that were later used to devise Individual Development Plans (IDP) for the program participants. The program customizes its training in the following manner. Instructors confidentially assess individuals, either formally through standardized procedures such as the Test of Adult Basic Education (TABE) or informally through interviews with instructors. Instructors then select job tasks and write an IDP. This IDP often begins with a basic skills review which uses traditional (presumably nonwork-related) materials and, once the worker develops competency, incorporates job-related materials. This is an open-entry/open-exit program in which the learners (or "workers" or "participants" as they are called in the report) generally meet one-on-one with their instructors twice a week. Or, in the language of the report, the workers "received instruction weekly as the minimum instructional contact with the [program] instructor." The final evaluation of the program states that the project exceeded its goals in terms of the number of participants it served. Additionally, the project helped bring together management and union efforts to improve the skills of the employees.

## METHODS

For this initial review of workplace education programs I chose to focus primarily on the written documents prepared by programs funded under the National Workplace Literacy Program.[2] In this way I could examine a broad sample of programs in order to understand the full range of projects developed under this federal program so as to describe this relatively new field. I chose to focus on the language and assumptions contained in the documents and looked carefully at both what was and what was not included in the program descriptions. In addition, I examined the language of the written materials available to educators and companies setting up these programs, including the wording of the requests for proposals in the *Federal Register* and the reports and booklets issued by the U.S. Department of Education. On the one hand, without the opportunity to visit these programs, my understanding of them was bounded by the verbal reports and written materials produced by the program directors. On the other hand, while they can provide added details and perspectives to written reports, the brief visits to programs which frequently accompany reviews such as this one provide necessarily partial views of the programs themselves. Conclusions drawn from these visits can be misleading (see Gowen, 1990, and Kalman and Fraser, 1992. For a similar point with respect to factory visits or "grande tours," see Darrah, 1990, 1991.). Longitudinal studies, close evaluations, and detailed ethnographies are needed to provide deeper, more nuanced pictures of programs. (For examples of these kinds of reports see Gowen, 1990; Kalman and Fraser, 1992.) As a first step, then, this paper reviews workplace education programs in order to interrogate their assumptions and to provide a framework to conceptualize alternative models.

For this review I systematically examined nearly sixty descriptions of workplace education programs. The descriptive materials I obtained from programs varied considerably—program directors sent letters responding to questions, promotional materials, conference handouts, handbooks, curricular materials and lesson plans, applications for funding, final performance reports, and evaluations. This panoply of information made it difficult to get a comprehensive sense of each individual program and

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[2]All of the programs funded in the first cycle—1989—and those funded in the third cycle—1991—of the National Workplace Literacy Program were contacted by letter and program descriptions were requested. Only fifty-one programs responded to these two requests. Of these, fourteen sent little or no information. Additional program documentation was found on the ERIC database.

argues for a more standard reporting format.[3] In an attempt to answer questions and fill in the skeletal pictures often provided by program descriptions, I had follow-up conversations or written correspondence with at least ten of the programs in which I asked for more detailed information about areas such as teaching, curriculum design, and assessment.

Once I had collected materials, I combed each program description for information about teaching, learning, and assessment. From this search I developed the following categories which were helpful in sorting the information: definitions of literacy and workplace literacy; assumptions about and descriptions of learners, teaching and learning, curriculum, and assessment; program purposes or goals; and criteria for evaluation (see the appendix for a complete description of the domains used to analyze workplace education programs). As I gathered information, I revised the categories, rereading the reports many times as I attempted to fill in the gaps. No program description contained information for each of the categories that I had developed. Frequently, the reports included facts that fit in two or three of the categories. After gathering the initial data, I looked at all of the programs across each of the categories to find both similarities and differences. As a result of this process, I decided to examine assumptions and construct a set of matrices to provide tools for program planners to closely examine and plan their current and future programs and to assist in setting a future research agenda for workplace education programs. By focusing on both the language and content of the program descriptions, I found there to be a new orthodoxy shaping the development of workplace education programs in the United States. I used the information provided by the sixty programs to develop the arguments below. The statements I make are not meant to be definitive; rather, I hope they provoke program designers, policymakers, companies deciding whether or not they should develop

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[3]The one standard format for the federally funded programs is the final performance report which is often lengthy and costly to reproduce. In addition, the format of this report makes it difficult to get more than a general sense of the program itself. In these reports, projects are asked to (1) compare their actual accomplishments to the objectives stated in their approved application; (2) give reasons for slippage in those cases where objectives were not met; (3) identify the number and characteristics of participants who did and did not complete project activities; (4) report on dissemination activities; (5) report on evaluation activities; and (6) report on any changes in key personnel. An external evaluation report, which often uses this same format, generally follows the performance report. There is often, but not necessarily, a brief project description at the beginning of either the performance report or the evaluation. Much of the descriptive material for each project is buried in the objectives and their accomplishments. This information is often brief and quantitative, which makes it difficult to surmise what actually happened in the programs. In the example below, a project reported its accomplishment of a single objective in a typical manner.

OBJECTIVE FIVE

To recruit and enroll no less than 50 workers in the project.

ACCOMPLISHMENT

By August 1, 1990, at the end of the three-month start-up phase, seventy workers were enrolled in the project. Instruction began on August 1, 1990.

programs, instructors, and researchers to carefully examine their own assumptions as they plan and evaluate new and existing programs.

## ASSUMPTIONS OF WORKPLACE EDUCATION PROGRAMS

In this section I will explore some of the common assumptions implicit in most descriptions of workplace literacy programs, using the two portraits of programs from above as a starting point. In addition to pointing to the specific and often narrow definitions or understandings contained in the language and practices described in the written material of many programs, I will suggest other, more generative, meanings and perspectives which might broaden the understandings and inform these practices.

### Assumptions about Literacy and Workplace Literacy

The written materials from both the hotel and auto plant programs state that these programs are designed to meet the needs of *functionally illiterate* adults. The hotel program defines functional literacy as "the ability to apply a set of skills to a set of general knowledge areas which are related to success in adult life," a definition developed in the *Adult Performance Level Study* (1977) and reflected in their functional competency model. In practice, this program like most others I examined, restricts this definition to the skills required for one's *work* life, as compared to one's *adult* life. This skills definition of literacy resonated throughout most of the descriptions of the federally funded workplace education programs reviewed for this paper. Out of eighteen programs that gave their definition of literacy in their written material, fifteen utilized a definition of literacy as "skills." Indeed, the rules and regulations governing the National Workplace Literacy Program embrace this definition; the first purpose of the Adult Education Act is to assist states to "improve educational opportunities for adults who lack *the level of literacy skills* requisite to effective citizenship and productive employment" (*Federal Register,* 1989, p. 34409, emphasis added). Note that while skills for citizenship are included in this definition of literacy, most programs choose to focus on the skills they believe are needed for "productive employment." I would suggest that a focus on the skills for citizenship might push programs to choose a more critical or participatory perspective on literacy as will be described.

Most programs use this same functional definition when they define the more specific term *workplace literacy*. For example, a statewide program designed to coordinate workplace literacy programs for business and industry defines *workplace* literacy as the ability to use computation, communication, and other basic skills in the context of the job. This program states that the definition of workplace literacy differs from "general" literacy because it addresses the specific needs of workers *on* their jobs. As a result, the literature from this program states that the definition of workplace literacy changes constantly. Note that according to the program planners, the definition does not change according to the workers' purposes, but according to the changing nature of work. This same program states that the program designers see workplace literacy as "meeting an unserved area between generic basic skills and technical skills." In other words, they define workplace literacy programs as fitting somewhere between an Adult Basic Education (ABE) program and a skills training program. Other programs, such as one for employees of four industrial facilities, rely on school-based grade level definitions of literacy: "the 0 through 12th grade level skills which are needed by America's workforce." Still another program states that its goal is to increase each person's "literacy" by at least one grade level. These definitions of literacy and workplace literacy rest on the assumption that literacy is a set of universal skills disassociated from the individual and made specific by the functional context in which they are applied.[4]

The term "functional literacy" was originally developed by the U.S. Army to indicate the skills necessary to carry out basic tasks in the military, assumed to be at a fifth-grade reading level (de Castell & Luke, 1986; Harman, 1970). The work of Sticht and his colleagues, researchers who have served as consultants to numerous workplace education projects, has popularized this term through their program of functional context literacy training which promotes the integration of vocational or technical training with the teaching of basic skills (Sticht, Armstrong, Hickey, & Caylor, 1987). This skills definition of workplace literacy ultimately leads to a competency-based model of education which rests on the assumption that literacy, or more accurately reading and writing skills, can be divided into discrete teachable and testable subskills (de Castell & Luke, 1986). In workplace education programs, these subskills are tied directly to tasks identified by

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[4] There are many comprehensive discussions of the definitions of literacy including Bizzell, 1988; de Castell, Luke, and MacLennan, 1986; Salvatori and Hull, 1990; Street, 1984, 1987; Wagner, 1987. For a book devoted to exploring this issue, see Venezky, Wagner, and Ciliberti, 1990. For a discussion of definitions with reference to workplace literacy, see Gowen, 1990.

program developers in the workplace, resulting in what is called a functional context curriculum.

A fundamental tension in this definition of literacy as tied to functional context rests in the notion that while the actual literacy skills taught change according to the context or worksite, there is an implicit assumption that all individuals within that particular context should be taught the same skills in the same manner (Lytle, 1991).[5] This definition of functional context relies on a restricted definition of context as texts or, more specifically, the particular texts encountered on-the-job, and, thus, necessarily narrows the definition of literacy for any given workplace to the materials gathered in a "literacy audit." The definition of literacy is further limited to the literacies needed at one particular workplace, thus ignoring the larger contexts of individuals' lives. The concept of *functional* literacy is in itself a Tayloristic concept; it implies that literacy skills are connected to discrete functions of a job. A more expanded notion of context would include the social relations that surround work with attention to the ways in which workers collaborate as a group. Thus, rather than identifying the content and reading level of a particular text for a particular individual as the context for reading at work, a broader understanding of context might emphasize the uses of texts by a group of people at work including the purposes and processes of both individuals and groups and the various roles and relationships people take on as they perform the literacy tasks alone or in collaboration with one another (Fingeret, 1983; Reder, 1987; Reder & Green, 1985). A more expansive definition might also include the literacies needed and used by workers outside of their specific jobs—those found in the workplace at large, at home, and in the community.

Numerous theorists and researchers who have studied literacy learning in a wide variety of cross-cultural settings have called into question the definition of literacy as skills (Cook-Gumperz, 1986; Heath, 1986; Street, 1984, 1987). Rather than viewing literacy as a universal set of discrete skills or bits of information, these researchers and theorists argue that literacy must necessarily be viewed as social practice, embedded in particular cultures, including, but not exclusively, the culture of the workplace. Szwed (1981), for example, urges that we consider a variety of "configurations of literacies, a *plurality of literacies*,"

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[5]Many programs have developed an educational approach which utilizes IEPs (Individual Educational Plans) or IDPs (Individual Development Plans) in an effort to individualize their programs. However, in these programs individuals choose from a predetermined list of skills that are constant for each participant and use teaching methods that are essentially the same for each individual. Thus, the skills, but not the ways of teaching, are adapted to each learner.

(p. 16) rather than a single, universal notion of literacy which translates into a standard to measure and classifies people as either literate or illiterate. In other words, Szwed and others claim that there are a range of ways in which literacy can be used—in many different kinds of social interactions and activities, for a range of purposes and in a variety of settings. Rather than applying universal principles to the understanding of literacy acquisition and use, literacy researchers and theorists suggest the need to discover local understandings of literacy as contextualized in a larger social, cultural, and historical framework (Heath, 1982; Scribner & Cole, 1978, 1981; Street, 1984, 1987).

Fingeret (1988) emphasizes the political nature of literacy and suggests the importance of examining the social relations surrounding its definition, when she writes,

> Literacy is not some naturally occurring object, like stone or soil or water or air. It is a social construct—it is defined and created by those in power in a society, and those definitions change as conditions change. Thus, literacy is considered historically and culturally relative; definitions of literacy depend on time and place (although they always are decided upon by those in positions of power). As the definitions shift, membership in the categories of "literate" and "illiterate" changes, and the rewards and stigma attached to membership in each category change as well. (p. 1)

Contrary to the assumption that *functional literacy* is a neutral and ahistorical term without cultural, social, or political meanings, Fingeret suggests that functional literacy is defined by those in power. Most often it is the employers who set the standards which judge some people *illiterate* and who determine the content and skills that define what it means to *become literate*.

The notion of multiple literacies suggests that a single standard—whether it is a literacy test for a job, a placement test for a class, or a set of benchmarks (e.g., a fourth-grade reading level)—cannot be used fairly to judge whether someone is literate or not. Individuals and groups differ in their complex histories of using literacy in their daily lives—on their job, at home, and in their communities—and in their purposes for engaging in formal learning (Fingeret, 1989; Heath, 1983; Lytle, Marmor, & Penner, 1986; Lytle & Schultz, 1990; Reder, 1987; Reder & Green, 1985). Furthermore, this perspective argues against the notion of literacy as an attribute of a person, emphasizing instead its essentially social nature and suggesting that literacy can be most accurately conceptualized as a social practice. Scribner and her colleagues have explored this notion of literacy practices in a variety of workplace settings (Jacobs, 1986; Scribner, 1985; Scribner & Sachs, 1991).

This definition of literacy suggests that what counts as literacy varies among individuals and across communities (Lytle, 1991; Lytle & Schultz, 1990, 1991; Reder, 1987; Scribner, 1984).

As work changes and workplaces are reorganized, it seems likely that new literacies will be required of workers, although we do not know yet for sure what these literacies will be. On the one hand, programs, such as the one in the auto plant, claim to teach workers communication and team-building *skills*. On the other hand, the notion of literacy as social and cultural practices suggests that something more than new skills is needed. It seems likely that workers and managers will need to learn practices which, while they may include technical skills such as the math needed to utilize statistical process control, will also include new patterns of interaction and collaboration. Companies undergoing reorganization, like the auto plant, describe new roles and responsibilities that workers will be given in the reorganized workplace. As compared with many low-skilled factory jobs in companies organized according to traditional, mechanistic models, in these newly organized workplaces, workers may be required to take more initiative, make more judgments, and communicate to a wider variety of people in a broad range of circumstances. While programs such as the one set up in the auto plant claim to be teaching interactional skills which are designed to match these new requirements, if the classes operate under outdated assumptions about literacy—that workers need reading and writing, and possibly listening and speaking skills handed to them by their instructors—rather than with the understanding of literacy and learning as active, constructive processes which build on the knowledge teachers and learners bring with them, then the roles workers take in these new workplaces will remain fundamentally unchanged.

If workplace literacy projects were to use the definition of literacy as social practice in conceptualizing, planning, and operating their programs, these programs might look different. For instance, rather than focusing on workers' deficits or viewing workers as problems to be fixed, program directors and instructors might explore, with individuals and groups of learners, the diverse literate practices learners bring to programs. (For a more complete discussion of this, see Lytle, 1991; Lytle, Belzer, Schultz, & Vannozzi, 1989; and Lytle & Schultz, 1990, 1991.) In addition to looking at individuals as they work, this definition of literacy suggests the importance of looking at the ways in which individuals as members of a group accomplish work, especially as work changes. It includes an understanding of the variety of literacies required to do work. One implication from this

understanding of literacy is that we cannot know the literacies required to do work ahead of time, but will need to examine closely the specific work practices over time. Brief tours of companies, collection of documents, and interviews may not be sufficient. New methods are needed for understanding the complex and changing processes involved in accomplishing work (see Darrah 1990, 1991, for an argument for using ethnographic methods to study work; see also Baba, 1991).

Yet another definition of literacy emphasizes its transformative potential. Labeled as critical literacy, critical reflection (Lytle, 1991; Lytle & Wolfe, 1989), or even the *new literacy* (Willinsky, 1990), this view emphasizes the role of the individual situated in the community as the site of knowledge and potential change (Gowen, 1990). Freire (1976, cited in Salvatori & Hull, 1990), a leading teacher and writer about critical literacy, describes the explicitly political nature of this meaning, focused as it is on power and structural relations:

> It is not enough to know mechanically the meaning of "Eve saw the vineyard." It is necessary to know what position Eve occupies in the social context, who works in the vineyard, and who profits from this work. (p. 71)

In literacy programs which follow the model proposed by Freire and others, learners use literacy to gain insight and power in the communities in which they live. Giroux (1988) emphasizes the potential of literacy to engender productive conflict rather than harmony. He writes, "To be literate is *not* to be free, it is to be present and active in the struggle for reclaiming one's voice, history, and future" (p. 65). This stands in contrast to the notion of literacy as delivering economic or social freedom, a notion that is implicit in much of the current rhetoric which proclaims the benefits of becoming literate (Hull, in press). A definition of literacy as critical literacy suggests that workplace education programs should have as their focus not only the tasks of the workplace, but also an understanding of the historical, social, and political relations that surround work and the possibilities for transforming both the workplace and one's position within it.

By narrowing the definition of literacy to include only functional literacy, the programs described (and others like them) limit their scope and thus their ultimate impact on both the workplace and on learners' lives. When learners are presumed to be functionally illiterate, the multiple ways in which they use literacies—both their native and second language literacies—in their daily lives, including in their work and community

settings, are left unexplored. The term "trainees" (used in the program for hotel workers in place of "students" or "learners") represents a conscious choice to emphasize a particular view of the purposes of the program as *training* rather than *learning* in a broader sense. By defining its goal as helping people to "become" functionally literate, the hotel program further narrows its purposes to providing the learners with a set of predetermined skills that will be useful in a narrow context (e.g., cleaning hotel rooms) so that they can become someone different (e.g., a literate worker) rather than striving for the broader goal of educating for citizenship or participation in democracy. While the program in the auto plant was developed in response to a changing work environment which presumably will require more of workers than well-honed skills, it adopted a skills approach to teaching literacy. The definition of literacy as functional literacy necessarily constrains both curriculum and instruction by tying teaching to the delivery of discrete skills and curriculum to a sequence of lessons in which competencies are mastered. As an alternative, more inclusive understandings of teaching and learning may be more appropriate to the new workplace. At the same time, the changing workplace which requires new ways of interaction necessarily expands the definition of literacy beyond isolated skills to the notion of literacy as practices and critique.

### Assumptions about Curriculum and Curriculum Development

Both the hotel and the auto plant programs describe the ways in which they "customize" their curricula. In the hotel program, program developers conducted a job task analysis or literacy audit which identified the literacy (or skills) required for the job prior to the start of the program. This procedure generally involves the observation of work and workers; interviews with managers, supervisors, and workers; questionnaires; and an analysis of the written materials. The program developers used the information they gained from this procedure to adapt the curriculum so that the skills taught would be related to the context of the particular workplace. In the instance of the program described above, numerous hotels were involved in the project. Rather than conducting a job task analysis at each site, program developers selected representative hotels to "audit" which enabled them to develop a generic hotel service workers' curriculum. After consulting with supervisors, instructors selected the specific lessons from this collection to present to the employees. In the program for auto workers, managers and union representatives compiled a list of job tasks. Instructors customized the curriculum by developing IDPs for each participant

which included both a review of basic skills and lessons they adapted from the group of job tasks.

Most programs funded by the U.S. Department of Education report that they have customized their curriculum through the use of a job task analysis. Indeed, it is strongly recommended that some form of job task analysis be performed by a company before it submits an application for funding (*Workplace Literacy*, 1992). The concept of a job task analysis or literacy audit is directly tied to the concept of a functional context curriculum. Numerous manuals and workbooks (cf. Askov, Aderman, & Hemmelstein, 1989; Philippi, 1991) have been developed to explain how to conduct a job task analysis, often considered the linchpin to successful programs. For instance, a manual developed by the hotel program described in this paper gives the following steps for developing a curriculum: "Identify learner needs [on the job, not in the larger context of his or her life]. Define which enabling skills the employees need in order to become proficient in the competencies you have identified." The manual further defines competencies as tasks which "enable participants to work to their potential on the job."

The concept that teachers should conduct a job audit or collect materials used in the workplace as a first step to curriculum development is not in itself a bad idea, although there is some concern that it may lead to job-testing and discrimination (Añorve, 1989; Carnevale, Gainer, & Meltzer; 1988; Hull, in press; Sarmiento & Kay, 1990). Job audits can be a vehicle for teachers to become more familiar with the workplace and a basis upon which to build a curriculum that is tied closely to the needs and interests of both the learners and the company. Too often, however, job audits are conducted by outsiders—educational specialists or curriculum developers—and used to generate lists of skills and to restrict the focus of a program to activities tied only to a worker's present job, not to the future or to the wider context of a person's life.

While, in theory, the process of curriculum development using job task analyses or literacy audits frequently involves the participation of managers, supervisors, instructors and employees, in the program material that I examined, the nature of the participation of each party was rarely spelled out. For example, while the hotel program asserted that the course content was negotiated jointly among the teacher, employee, and employer, it was difficult to determine the extent and kind of input that was solicited from each participant, the nature of the negotiation, and the method of constructing the curriculum. The project

report describes the process of customizing the curriculum—the instructors chose which units to teach at a particular site, based on their interviews with supervisors who, in turn, informed them of the needs of the workers. From this report, it appears that the supervisors spoke for the workers, although we cannot be sure how this information was gathered. The matrices proposed at the end of this paper would help such a program to clarify the nature and extent of each participant's involvement in the construction of the curriculum and to rethink each person's role in this process.

What is striking about literacy audits, by far the most common method for generating curriculum in workplace education programs, is that they almost always lead to lists of skills and subskills rather than to a broader understanding of literate practices. Furthermore, and perhaps even more importantly, the dominant ideology which supports this single way of conceptualizing the curriculum necessarily limits the possibilities for teaching and learning in these programs. The fact that there is a dominant way of conceptualizing curriculum development and content is reflected in the phrase repeated again and again in the materials that I read—"researchers and practitioners are unanimous in recommending some form of job task analysis" (*Workplace Literacy*, 1992, p. 21). This apparent unanimity is reflected in a letter I received from a program director who described the instructional program of her project in the following manner: "Instruction is customized to each company with which we work, as I'm sure you've heard 1,000 times by now. And of course, everything is related to the 'functional context,' i.e., the job and the company." The initial review of the National Workplace Literacy Program prepared for the U.S. Department of Education (Kutner et al., 1991) used the presence of functional context curriculum as one of the criteria for their selection of exemplary programs. Thus, the presence of a functional context curriculum has become synonymous with a successful program. It is important to note the strengths and limitations of this single way of viewing curriculum development and, perhaps most importantly, to recognize that it is only one of the many ways to conceptualize the construction of curriculum.

As an example, the curriculum designed for the hotel industry in the program described above uses dialogues about cleaning a room to teach conversational English. These dialogues are used to introduce particular vocabulary words. The auto plant program does not specify how it adapts its basic skills courses to the workplace other than the fact that curriculum materials consist primarily of workplace documents identified by workers as those they want to read, comprehend, and use. A review of the documents provided by

other workplace education projects suggested that similar processes are used in most programs. Frequently programs sent me lesson plans or examples of worksheets to emphasize the connection of the curriculum to the job. This emphasis is based in part on reading research which suggests that learners will progress more quickly when they are taught to read (and by extrapolation to write) using job-related materials (Diehl & Mikulecky, 1980; Mikulecky, 1982; Sticht, 1988; Sticht et al., 1987). In addition, the language of the official documents published and distributed by the U.S. Department of Education (such as the requests for proposals, the reviews of programs [e.g., Kutner et al., 1991; *Workplace Literacy*, 1992], and sample project descriptions and evaluations) reinforces the emphasis on curriculum that is developed primarily, if not exclusively, from job materials.

Conceptual frameworks for constructing a literacy curriculum are necessarily tied to definitions of literacy. If literacy is perceived as a set of skills, then a curriculum can be viewed as composed of discrete lessons based on the diagnosis of deficits and the assessment of competencies. In its isolation and drill of discrete, decontextualized skills, functional context curricula replicate the social organization of work in traditional, Tayloristic workplaces, factories where work is broken down into discrete and repetitive tasks. If, on the other hand, literacy is viewed as cultural practices, then a curriculum must necessarily emphasize those practices learners bring with them as well as the ones they need and want to learn. This implies that the community of practice to which the learner belongs and will join should be taken into account when instructors or program designers determine the content and the instructional processes of a program (Lave & Wenger, 1991; Resnick, 1990). In addition, this definition suggests that the changing practices as well as the changing skills of newly reorganized post-Tayloristic workplaces should be included as part of literacy learning. Curricula based on the critical literacy often begin with the learners' own interests and goals and frequently include a critical examination of existing relationships and social or political action (Mezirow, 1985). Rather than focusing on existing conditions, these programs focus on what a workplace might become.

Another way to conceptualize curriculum is to define it as both the selection and the organization of knowledge (Eisner & Vallance, 1974). Using this definition, the following questions can be posed:

- Whose knowledge is included? (And whose knowledge is not included?)

- Who selected the knowledge? (And who was not included in the selection process?)
- Why is the curriculum organized and taught in a particular way? (What other possibilities are there? Who determined the present sequence?)
- Why is this knowledge being taught to this particular group of learners? (And who is not included in the learners?)

Each of these decisions is essentially a political choice that carries a mantel of institutional and cultural legitimacy (Apple, 1979). These questions might be used as a framework for eliciting the participation of multiple parties in curriculum development and for clarifying the roles and responsibilities of those people involved in the process.

For a variety of reasons, the taught curriculum often differs dramatically from that which is planned, an occurrence which the official discourse of workplace literacy programs rarely documents. (For a description of an instance of the enacted curriculum differing substantially from the planned curriculum in a workplace literacy program, see Kalman and Fraser [1992]. See also Gowen, 1990.) Goodlad, Klein, and Tye (1979) proposed a typology that is helpful in analyzing how curriculum changes as it moves from conception to enactment. They suggested that there are five different curricula: (1) the ideological curriculum which is based on ideas and emerges from the planning process; (2) the formal curriculum or the officially approved curriculum which for political reasons often differs from the one initially proposed; (3) the perceived curriculum or the ways in which the various parties including teachers, learners, and, in the case of workplace education, program managers and supervisors perceive the curriculum; (4) the operational curriculum or the curriculum that is actually taught; and, finally, (5) the experiential curriculum or the curriculum that the learners (and I would add, the teachers) experience. This analysis emphasizes that the development and implementation of a curriculum is not a neutral activity and that frequently many different curricula operate simultaneously. Reports on workplace education programs often limit their descriptions of curriculum development to the process of gathering workplace materials. The framework described above suggests the importance of examining the trajectory of the curriculum, comparing, for example, the ways in which it is conceptualized by planners and perceived by learners. It emphasizes the interactional processes involved in curriculum development as compared to its portrayal as a scientific and neutral process.

A continuum might more accurately represent the processes of curricula development available to workplace education programs. At one end of the continuum are prepackaged "teacher proof" materials—textbooks and computer programs—written by outsiders to the program often *for* rather than *with* teachers and learners. At the other end of the continuum is a participatory program in which learners play a major role in determining the content of their learning at all stages of the planning process, including during the actual classes. Although participatory curriculum would most likely focus on the content of work, it might also include interests and goals from other parts of the learners' lives. Somewhere in between these two end points is functional context curricula whose content is generally determined by instructors, managers, and, frequently, outside experts with some input from the learners themselves. An additional dimension of the continuum would be to track how the curriculum, whether it is a functional context or participatory one, changes over time as it proceeds from conceptualization to enactment.

Another common assumption of workplace education programs is that the content of the workplace curriculum should only include material related to the specific jobs performed by the workers. The decision of what content to include in the curriculum is closely tied to the narrow range of purposes for workplace education programs and a legitimate concern for justifying the costs of a program. A typical purpose for a workplace education program is reflected in the following statement from a statewide workplace literacy program which serves seven manufacturing firms:

> Employees . . . will be brought up to the level of competency of their present job (math, english [sic], communication, etc.) and they will also have a solid foundation of higher basic skills (team-building skills, interpersonal skills, etc.) in order to participate in a Total Quality Manufacturing work environment.

Thus, skills rather than practices or ways of participating are emphasized. There is an assumption that only "illiterate" or "incompetent" workers need "higher basic skills," rather than an emphasis on teaching team-building skills to the actual teams that perform the work, which may include supervisors and managers along with line-workers.

Most programs focus on external goals established by program designers (including company managers and educators or curriculum developers). The U.S. Department of Education's *Workplace Literacy* (1992) highlights the importance of this emphasis on job-related curricula when it states the following:

> A curriculum is a conceptual system of related learning experiences. The curriculum developed helps the learner to progress from his or her level of job-related basic skills to a point of competency needed for the current or a future job, or for a new system such as team-based management. (p. 22)

Based on research which suggests that reading is more effectively taught in occupation-specific contexts (Diehl & Mikulecky, 1980; Mikulecky, 1982; Rush, Moe, & Storlie, 1986; Sticht, 1979, 1988; Sticht et al., 1987), programs tend to define curriculum as a sequence of reading, writing, or math exercises whose content is related to a specific job or workplace. The result is that many programs, despite their diversity of learners and the complexity of their contexts, look nearly identical.

However, another way to conceptualize workplace programs is to have a job-related focus as one of the many options that a program considers. Furthermore, if programs are designed without taking into account workers' broader interests, and purposes for reading and writing, it is likely that eventually they will fail. Not only might learners stop attending classes, but the ultimate goals of the program may not be reached.[6] If programs claim to be designed to teach workers the new practices that will be required as work is transformed, both the content *and* the way in which teaching occurs must necessarily reflect the new workplace. Once again, my concern is the unquestioning attitude that there is only one legitimate kind of program or way to develop curriculum as reflected in the language of functional context literacy that dominates the discourse of workplace education.

As an alternative to a single focus on basic skills related jobs, programs might base the content of curricula on learners' own purposes, interests, and needs. These interests might be as broad as keeping journals or as narrow as comprehending contract agreements. While programs often ask learners to state their interests, they frequently present employees with a checklist of predetermined goals. Furthermore, while the specific goals might be used to develop an individualized education plan, they frequently do not affect the actual curriculum of the program. Brookfield (1986) suggests that programs incorporate both action and reflection as ongoing processes so that learners will become more proactive in

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[6]In her critical ethnography of a workplace education program, Gowen (1990) uncovered the resistance by hospital workers to a functional context literacy curriculum. The instructors in this program had developed a series of lessons based on materials in the workplace such as a weekly newsletter written by the supervisor for the housekeeping staff. The workers resisted the instruction; they felt that they already knew the information in the newsletter and that studying it would not help them with their ultimate goals (e.g., obtaining a GED). Likewise, the designers of a program for hospital workers that Kalman and Fraser studied (1992) assumed that the topic of work would be motivating for the participants in the program. The workers interviewed by Kalman and Fraser disagreed.

assuming control over setting their own goals and establishing criteria for evaluating their learning (Lytle, 1991). As workers are asked to assume more control and responsibility in the modern, post-Tayloristic workplace, it seems even more critical that programs rethink the ways in which they hand them the skills to adapt to these changes. If the restructured workplace requires new "thinking skills" (cf. Carnevale et al., 1988; the Secretary's Commission on Achieving Necessary Skills [SCANS], 1992), then it seems reasonable that programs include more than the content of thinking skills in the curriculum (e.g., problem-solving activities). In customizing basic skills curricula to the workplace, then, programs need to adjust not only the content of the curriculum, but also the process by which it is constructed.

As an example of this different conception of curriculum, one program uses themes developed in conjunction with learners which address workers' language skills, needs, and interests.[7] These themes are both broad (e.g., "work" or "health and safety") and narrow (e.g., "signs in the workplace" or "tools, equipment and gauges") and integrate reading, writing, speaking, and listening. At one site, the learners participated in deciding what needed to be learned, how, and why, and the ways in which learning should be documented. In addition, learners researched their own learning needs, methods, and styles. Once they had gathered this information, the teachers looked for commonalties in the class to determine a theme (see also Jurmo, 1989; Soifer et al., 1990; and Stein, 1991 for other descriptions of learner-centered or participatory ways of teaching in workplace education programs). Thus, the participation structures of the classroom—the roles and relationships of teachers and learners—were changed to more closely match those of a reorganized workplace.

Another program reports that its curriculum is composed of twenty-nine work-based units, developed with input from workers and company representatives and based on learners' language, work, and "life skill" needs. This federally funded program is a member of a workplace education collaborative which has developed the following process for curriculum development: first, materials are collected from the work environment,

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[7]Perhaps because of the stringent funding guidelines that advocate particular ways of setting up programs, there are relatively few examples of workplace education programs with "promising practices"—programs which have developed alternative conceptions of curriculum development. Rather than advocating a particular method of curriculum development, I am suggesting that programs should be encouraged to develop truly innovative practices. If the goal is to prepare workers for newly organized workplaces, programs will have to risk replacing traditional methods of teaching that have predictable, although limited results, with newer, more appropriate methods.

including observations of work by a curriculum developer; second, learners and supervisors work together to determine goals; third, the curriculum developer constructs themes which address the language skills, needs, and interests of the learners; and fourth, these themes are then reviewed by the teachers and site teams (including representatives from the company such as supervisors). The curriculum units are then adapted by the instructors, who draw on learners' immediate language needs from the workplace and their daily lives. In this program, staff reported that because of federal funding requirements, nonwork-related content was not formally included in their curriculum, although these needs were addressed on an informal and limited basis.

While this method of curriculum development might take longer and require more knowledge and expertise for the instructors (two concerns of cost-conscious companies), evidence from ABE (adult basic education) programs strongly suggests its benefits in terms of increased participation and learning from these learner-centered approaches (Fingeret & Jurmo, 1989; Grubb, Kalman, Castellano, Brown, & Bradby, 1991; Kazemak, 1988). Furthermore, alternative conceptions of literacy are more generative of effective ways to teach than many of the commonly accepted assumptions that lead to narrowly defined programs.

Yet another perspective on curriculum is to define it as both social interaction and academic task (Erickson, 1982). This perspective recognizes that learning in classrooms is derived from both the actual content of lessons and the social interactions among teachers and learners. It provides another way to conceptualize workplace curricula which emphasizes the inclusion of social interactions and their effect on learning. A reading of the descriptions of workplace education curricula suggests that most programs operate with the assumption that learning is the end result of an interaction between a learner and a text; an assumption which emphasizes the need to select the right text or sequence of skills to match what is needed on the job. It is difficult to know how to teach interpersonal and communication skills with only a text, a computer monitor, as the site of interaction. The concept of curriculum as including both the academic task (or knowledge to be learned) *and* the social interaction (or interactions among instructors and learners) suggests the importance of taking into account a wide variety of relationships that will have an impact on learning. Thus, teaching a practice to a group differs from presenting an exercise in a workbook to an individual working alone in a learning lab, and this difference can be considered as part of the curriculum. If companies expect to become learning environments

in which workers constantly interact with and learn from each other, they will need to adopt a new definition of curriculum which includes this understanding of learning.

When curriculum is seen as a predetermined sequence of skills designed to help learners master competencies which are tied to specific jobs, the result is a particular kind of program. Most often these types of curriculum are developed because of a reliance on standard forms of evaluation. It is relatively easy for a company to measure the success of a program designed to teach specified competencies. A quantitative indication of progress, whether or not it is accurate, is often needed to secure future funding for a program and is frequently tied to bottom-line concerns or the importance of financially justifying a company's investment in education. In contrast to a curriculum which responds to such short-term concerns, Stein (1991) proposes that curriculum can also be developed with long-term company goals in mind such as education for increased participation.

When curriculum is perceived more broadly as including numerous decisions about what is taught, how and why that material is taught, and the participants and processes involved in each of those decisions; when curriculum is seen as including both the actual, perceived, and enacted curriculum; and when the content is viewed as negotiated and constructed rather than as determined by the context of the work, then a wider range of programs are possible and it is more likely that these long-term, less easily measured goals will be met. If this model of curriculum development is used, each program might vary not only according to the particular industry, but also according to the individuals involved, their own histories, practices, purposes, and goals.

### Assumptions about Teachers and Teaching

Most portrayals of workplace education programs describe the teachers and teaching in the program by giving the qualifications of teachers, facts about the instructional settings (e.g., the number of computers, the type of space), and the number of contact hours. For example, the hotel program presents its ESL classes as follows. First the description lists the number of classes taught, the number of trainees in each class, and the hours and frequency of meeting times. Second, the report states that the focus of the lessons was English language and literacy skills necessary for effective and improved job performance and that the classes were tailored to the needs of the employers and employees. Third, the report declares that an objective is posted in plain view for both the

learners and the management. The objective is purportedly used to focus the employees' attention and to inform the management of the lesson for that day. The report lists six instructional techniques along with a brief description of each one. These methods include Language Experience Approach—a method of teaching reading and grammar through the learners' own narratives; dialogue and drill; and variations on role-playing and information-gathering using problem-solving techniques.

In the auto plant program, classes are called "skill upgrade sessions." While the final report gives little information about how instruction actually occurs, except that workers meet one-on-one with their instructors, the initial grant submitted to the U.S. Department of Education suggests that these sessions would use the teaching methods found in traditional classrooms. Thus, while on the one hand it is acknowledged that *new* methods of manufacturing have been introduced into the workplace, on the other hand it is emphasized that *old*, or traditional teaching methods will be used in the classes designed to "train" workers for their new and changing jobs.

In fact, most of these reports focus on the mechanics of instruction (e.g., the location of classes and the number of class hours each week), and only occasionally mention instructional techniques (such as cooperative learning groups or the memorization of dialogues). In their examination of functional context literacy training methods in remedial programs, Grubb and his colleagues (1991) found that while these programs state they are adapted to particular work environments, in actuality, little is changed except the source of the text. In the materials that I examined, few programs discuss pedagogy or their theories of teaching and learning, and the instructors are rarely mentioned. Most programs simply describe instruction as occurring. For example, *Workplace Literacy* (1992), the report issued by the U.S. Department of Education on the first three funding cycles of workplace education programs, states, "How workplace literacy instruction is provided is critical." (p. 22) Following this statement is the argument that basic skills should be taught in a job-related context. There is no mention of pedagogy or ways to think about how to set up learning environments. While I want to exercise caution about making assumptions from written materials, it is worth noting that what is (and is not) included in these reports reflects the priorities set by both the individual programs and the funding agencies. A careful examination of materials and subsequent telephone conversations suggests that despite good intentions, most programs have not focused on

issues of pedagogy; they have chosen instead to devote their attention on techniques for gathering lists of new skills.

With few readily available models, programs often fall back on traditional ways of teaching, ones that replicate the ways children are taught in school: teachers lecture in front of classrooms or use teacher-led and teacher-structured activities. As Hull (in press) explains,

> Schooling is a bad memory for many adults who are poor performers at literacy, and workplace instruction which is school-based—which relies upon similar participant structures, materials, and assessment techniques—will likely be off-putting by association. I am dismayed, then, to see how frequently proposals for and descriptions of workplace literacy programs rely upon school-based notions of teaching and learning. (p. 40)

The point is not that these techniques are necessarily bad, but that like the rusty, slow machines and old ways of organizing work, they may not be appropriate for preparing workers for newly organized workplaces. Furthermore, as Hull points out, if workers were not successful in learning literacy at school, as is true for many, although certainly not all, participants in workplace education programs, it does not make sense to use those same teaching methods to instruct them as adults.

The descriptions of workplace education programs list a variety of titles for teachers including instructors, "live instructors" (as compared with computers), project staff, process training specialists, curriculum developers, and instructional managers. Each of these titles reflects particular assumptions about the teachers' roles and relationships with learners and other project partners.[8] For instance, the title "live instructors" is applied to the people who do the teaching, in contrast to the inanimate instructors—the computers. This title implies a rough equivalence between the two, as if the choice between engaging in a process of learning with a person was a parallel or even similar experience to "working on" a computer. The terms "project staff," "process training specialists," "curriculum developers," and "instructional managers" have a similar tone. They all seem impersonal

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[8]My analysis of the titles programs give to instructors, and later in the paper, the labels programs apply to learners, is necessarily constrained by my methodology. I read about, but did not actually visit, numerous programs. On the one hand, program directors make explicit choices in the ways they describe their programs and these choices reflect particular priorities, conceptions, or viewpoints. On the other hand, as one anonymous reviewer pointed out, titles do not necessarily determine behavior and an instructor who is called a "manager" might act in a variety of ways. I would argue, however, that both learners and instructors respond to titles and that programs should make careful choices in both the aspects of their programs they choose to describe and the ways, including the titles and other language they use to describe their programs.

and emphasize the role of managing learners, their learning, and the knowledge they are taught. In contrast, Brookfield (1986) argues that teaching should be conceived of as facilitation, and teachers as facilitators. Rather than acting as transmitters of established skills, the teachers' role, according to Brookfield, is to make it possible for learners to experience varied ways of thinking and acting so that they can make informed choices about their purposes for learning (Lytle, 1991). By acting as a facilitator, teachers can join learners in the process of co-investigating the knowledge they bring to programs and their goals for literacy learning.

Programs assign teachers a range of jobs including enhancing workers' skills, using a variety of techniques to meet the literacy needs of the employees, monitoring computer use, and, in one instance, reporting to company officials any "unexcused absence, excessive tardiness, lack of interest and/or horseplay or goofing off during class time." Again, each of these responsibilities implies a different set of roles and relationships with learners.

Most program descriptions do not mention the explicit roles and relationships between instructors and learners. Instead, they frequently emphasize what is taught (the curriculum or, more specifically, the process of curriculum development) and when it is taught (the schedule and number of contact hours).[9] Research on adult learning suggests that adult education teachers should pay particular attention to how learning occurs (Brookfield, 1986; Cross, 1981; Knowles, 1970, 1979). (For a critique of the studies of adults as learners, see Brookfield [1986] who raises the concern that these studies are primarily based on Caucasian Americans.) Because, in so many cases, adults enrolled in workplace education programs were not successful in schools in a conventional sense (although, of course, this should not be assumed), it is particularly important that this relationship be reexamined and redefined in adult programs (Kazemak, 1988; Lytle, 1991). On the other hand, experience shows that adults often come to programs with particular expectations about the roles of their teachers and might react negatively if those expectations are violated (see Kalman & Fraser [1992] for an example of this). This argues for a careful consideration of the instructor-learner relationship.

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[9]The first review of the National Workplace Literacy Program (Kutner et al., 1991) gave as one of its recommendations that researchers should determine a standard number of hours of workplace literacy instruction required for participant literacy levels to improve. This recommendation assumes that learning

In addition to a discussion of where and when instruction takes place, most reports on workplace education programs detail techniques of specific activities rather than teaching methods or ways of organizing instruction. These techniques range from teacher-led discussions and worksheets to more "worker-centered" activities such as cooperative learning, role-playing, and the language experience approach. In their study of remediation in vocational education and job training programs which included some workplace education programs, Grubb et al. (1991) found that most programs relied on what they termed "skills and drills" rather than "meaning making" methods of teaching. A review of federally funded workplace education programs suggests a similar pattern. While a few programs indicate that they use whole language or process-writing methods which emphasize the integration of reading and writing and the use of whole texts (rather than fragments), most programs rely on workbook-type exercises which use the job context to teach isolated skills. They frequently supplement these exercises with practice using role play or dialogues.

For example, one program published and distributed a manual to help other companies set up their own customized programs. The manual contains examples of drills with explanations of the ways in which these exercises are adapted to particular worksites. For instance, one worksheet on initial sounds, adapted for the hotel industry, has several rows of pictures and letters. In order to teach the letter "b," there is a row of boxes. The first box contains a drawing of a bed, the second a picture of a "b" superimposed on top of the bed, the third box contains a single letter "b" and the word "bed," and in the final box are two "b"s. This sequence is repeated with a number of other letters and words (e.g., c-cup, d-dish). The annotation highlights the job-specific context of the worksheet (the hotel industry). Later in the guide, there are examples of ways to adapt a curriculum to other workplaces such as one designed for employees in a bakery. This lesson begins with a vocabulary lesson which begins with the following phrases: "This is a chef's hat. This is a vest." (There is an explanation that this exercise is adapted to the workplace from the more general exercise: "This is a coat. This is a jacket.") A second exercise instructs the teacher to mount Polaroid pictures or cartoons of people on the page and write a dialogue about each picture. This activity, with the vocabulary exercise it was adapted from, are illustrated in the following example.

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literacy is a finite process (after x number of hours a person will be literate), is the same for every individual (the x remains constant across individuals), and equates teaching and learning with covering material.

Example 1: Workplace adaptation of a vocabulary exercise (for workers in a hotel bakery)

Standard vocabulary exercise:

The woman's wearing a dress.
a blouse.
a skirt.

The man's wearing a suit.
a shirt.
a tie.

Workplace adaptation:

(Mount cartoons or Polaroid pictures here)

This is (name).
He's the store manager.
What is he wearing?

This is (name).
She's your manager.
What is she taking off?

[There are 2 more dialogues.]

These examples point to the reductive nature of much of the instruction in workplace education programs. While the job context is incorporated into the content of the instruction ("b" is learned with a picture of a bed), the exercises are likely to be essentially meaningless (not to mention infantilizing) to the learners themselves. These examples emphasize that the narrow definition of context as the work environment can result in what are essentially trivial adaptations of standard adult education curricula. Current research and theory on reading and writing suggests that individuals use language for a variety of their own purposes, in particular contexts, and to convey multiple meanings, and that purposeful communication should be the basis for literacy instruction (Edelsky, 1986, 1991; Gumperz, 1971; Halliday, 1978; Hymes, 1972, 1974). A meaning-making or whole language approach to language learning emphasizes that learners construct meaning using grapho-phonic, syntactic, semantic, and pragmatic cues which are found only in whole texts (Goodman, 1986; Edelsky, 1986; Edelsky, Altwerger, & Flores, 1991; Edelsky, & Draper, 1989). Attempts to break texts into small pieces that can be used to teach specific skills turns literacy learning into the acquisition of isolated skills, rather than a process of constructing meaning through interactions with the text and with other people.

A contrasting example of a lesson built on whole texts is given below. The class which developed this lesson began discussions about work after they had met for about a month, when people felt comfortable with one another.

Example 2: Lesson about a poem (for workers in a textile factory)

Before reading the poem, discuss the following:

The poem describes life in a cotton mill during the early part of this century. Many families moved from the country to the towns where the mills were. Their lives were changed forever. Read and discuss the questions below:

1. What are hard times?
2. Have you lived during hard times? What was it like?

Read the poem: "Hard Times Cotton Mill Girls"

After reading the poem, discuss these questions:

1. What do you think about this poem?
2. Do you believe it's true? Why?
3. What are the reasons why it was hard times for cotton mill girls.

[There are 3 more questions.]

Read the following story. [The story is an autobiography about four generations of women who have worked in the cotton mills.]

Write about good times and hard times.

The essays written in response to this lesson were compiled in the book, *Good Times Hard Times, Expressions of workers in the Learning Center at the Burlington House Finishing Plant.* This lesson was taken from the introduction to that book.

Each of these lessons is based on different assumptions about teaching and learning and about the roles of teachers and learners. While the first lesson reinforces the notion that knowledge should be handed from the teacher to the student and practiced through essentially meaningless drills, the second lesson rests on the assumption that knowledge is constructed through social interaction and that discussion about meaningful topics will promote literacy learning. Another way to examine these two examples is to look for the source of knowledge in each lesson. In the first example, the text and possibly the teacher, depending on how the actual lesson is structured, are the authority or source of knowledge. In contrast, in the second example, teachers and learners act as co-investigators to construct

knowledge about good and hard times, both from their experience, from the text, and from their own responses to the text in conversation and in writing.

Because program descriptions rarely describe actual teaching interactions (whether they are in classrooms, union halls, or on the shop floor), it is difficult to know whether teachers use traditional, didactic teaching methods[10] or more participatory teaching methods. (See Fingeret & Jurmo [1989] for a description and rationale in support of these methods.) While traditional methods tend to rely on what Freire (1983) has termed the banking model, in which learners are the passive receptacles of knowledge, more participatory approaches assume that learners are active collaborators in all aspects of their learning (Fingeret & Jurmo, 1989).[11] When examining workplace education programs, we need to ask questions not only about the background of instructors (although that may be important) and the numbers of students and schedules of their classes, we also need to look closely at how teaching and learning occurs, how lessons are constructed, and the roles and relationships between and among teachers and students. The choice that many program directors make to omit this information from their program descriptions can be read as a conscious one, based on a lack of information or a decision that these issues are not a priority.

## Assumptions about Learners and Learning

Workplace education programs utilize a variety of labels for learners. Whether learner, student, trainee, client, participant, employee, or worker, each label implies a slightly different role and purpose for participation in the program. When a program labels its employees as "trainees," it conveys to the learner, to the instructor, and to the public that its purpose is to train the employees in particular skills to enhance their job, rather than to educate them in a broader sense. Similarly, programs which use the term "clients" seem to focus on short-term goals or primarily utilize computer-assisted learning with very specific and predetermined goals. Programs which label the learners as "workers" often seek to emphasize the social, historical, and political relationships in the workplace as integral to their curriculum (Kalman & Fraser, 1992). In the material I surveyed, there were instances

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[10] Kazemak (1988) reports that most adult education classes use traditional teaching methods. It seems likely that most classes affiliated with workplaces would use these same methods.

[11] Kalman and Fraser (1992) point out the difficulty of using more participatory methods without ongoing training and support.

where employees were described as commodities who need to be upgraded, as in the following statement: "We improve our people, products, and services." A report from the ASTD (American Society for Training and Development) states, "In the new economy people must be treated as assets to be developed in order to add value, not costs to be reduced" (Carnevale, 1990, p. 8). These labels and ways of speaking often reflect and may even determine the roles and relationships of learners in programs and also the educational views and priorities of the program managers.

Following both school-based and traditional adult education models, the reports on workplace education programs frequently describe learning in terms of contact hours, with the added presumption that a particular number of contact hours will be equivalent to predictable advances in learning. For example, in their grant proposal to the federal government, the program planners for the project at the auto plant stated that it was their experience at the technical college that adults can advance one or more reading levels or one math level in forty contact hours, but that in this particular program, instructors will determine how much time is needed to achieve the chosen skills or job tasks. Programs which adhere to strict formulas which equate a particular number of contact hours with specified increases in grade levels in reading and math subscribe to the presumption that learning is linear and that standards used to measure the progress of grade school children (and are questionable in that setting)—grade levels—are appropriate for adults and for workplace education programs.

Funding agencies require programs to report the total number of contact hours to them, and in their reports, program directors frequently make a correlation between numbers of hours and advances in learning. This method of quantifying learning has its own appeal to many companies—it can be used to put a price tag on learning and entered on a balance sheet. If a specific amount of learning can be said to occur in a predictable number of hours, then a company can calculate the cost of increasing the collective reading levels of workers. Unfortunately, the process of teaching and learning is not that neat. If reading and writing were simply the mastery of particular skills, then there might be a rough correlation between the number of contact hours and the skills acquired. (Although this is easily confounded because people learn in very different ways depending on their interests and abilities.) If, on the other hand, reading and writing are conceptualized as social and constructive processes and learning includes negotiation and collaboration, then it is impossible to put either a clock or a price tag on learning literacy.

Each of the federally funded workplace education programs, like the ones described in this paper, include a section in their final performance reports to the U.S. Department of Education that describes the characteristics of both the participants who completed and of those who did not finish the program, including the outcomes achieved by the completers. The reports most often describe these two groups of individuals through demographic characteristics (i.e., age, gender, ethnicity, and education levels) and their scores on standardized tests. Outcomes generally include both standardized test measures and affective measures which are reported both in percentages and through brief anecdotes.

These are relatively narrow ways of describing learners and may actually misrepresent the complex histories and practices that adult learners both bring to and take away from programs. A much broader framework for understanding adult learners and their literacy development has been developed by Lytle and her colleagues in collaboration with literacy teachers and learners in an urban, community-based literacy program (Lytle, 1991; Lytle et al., 1989; Lytle & Schultz, 1990, 1991). This framework includes four dimensions of literacy: (1) *beliefs* or learners' theories about language and literacy, teaching, and learning; (2) *practices* or learners' everyday uses of literacy; (3) *processes* or how learners accomplish reading and writing including the products of these transactions; and (4) *plans* or learners' short- and long-term goals and the ways they hope to accomplish these goals over time. This framework is not meant to be exhaustive. Instead, it suggests the range of information and knowledge that can be collected by the learners on their own and in collaboration with instructors. This ongoing compilation of information both gives a more complete picture of the strengths learners bring to programs and provides a basis for charting change or growth over time.

An example of the kind of information gained from these learner-centered assessment procedures is given below. In this assessment interview, Joseph, an adult learner in a community literacy program, was asked to describe himself as a writer in order for his instructor to understand his beliefs or conceptions about writing and writers. Joseph had worked his way up from a job as a janitor to a relatively high position in a mill without, in his words, "being able to read." He had developed numerous strategies to cope with the literacy tasks he was required to perform, which included reading blueprints and filling out shipping forms. His initial response to the question was

> And I mean, I always did love to write. I mean, I loved to write so nicely and so neat, you know. I try and learn just all kinds of writing, and I love a

> lot of fancy writing. I love that. And if I could get into the upper level, I love all kind of fancy ways and everything like that. (Lytle & Schultz, 1990, p. 379)

Joseph added stories of times he took poetry books home from the library and stayed awake until three in the morning writing or, more precisely, copying the poems to learn to write, to this description of himself as a writer. Encouraged by the interviewer to elaborate, Joseph detailed numerous topics he wanted to write about, moving from a portrayal of writing as a process of encoding to a conception of writing as a way to communicate and construct meaning for himself (Lytle & Schultz, 1990). While this example is necessarily partial and includes only the voices and interpretations of the researchers, and not the learner himself, it illustrates one process for assessing literacy learning beginning with a description of a learners' practices and beliefs; it includes interaction; and it stands in contrast to traditional assessment procedures (Lytle & Schultz, 1991).

At the same time that most programs proclaim that standardized evaluation measures do not accurately measure either the knowledge employees bring to programs and, more problematical, the knowledge they gain through participation in programs, nearly every program uses these measures and reports the scores to document their success as a program. (For critiques of the use of standardized testing in adult education programs in general and workplace education programs in particular, see Kazemak, 1988; Lytle & Schultz, 1990; and Lytle & Wolfe, 1989.) Recent research in learning emphasizes the social context of learning and suggests the importance of viewing learning as an interactional process which encompasses interactions with other people and with physical objects, symbols, and cultural and historical practices (Erickson, 1984; Rogoff, 1984; Vygotsky, 1978). Likewise, recent studies of work emphasize the social context of work (Darrah, 1990, 1991; Jacobs, 1986; Kusterer, 1978; Scribner, 1985; Wenger, 1991; Zuboff, 1988). This research argues both for collaboration as a learning process and against individual measures of growth. An additional difficulty with using standardized tests, even if they are keyed to particular programs, is that learning becomes equated with scoring higher on tests. If literacy is to be viewed as more than the accumulation of isolated skills, then we need to develop more complex assessment measures, ones which account for a broad understanding of learners and diverse ways of describing learning.

A second method of reporting the progress of learners in programs is through testimonials given by managers, supervisors, instructors, and the employees themselves. These reports usually focus on the ways in which employees have improved their performance at work and often include statements about punctuality, productivity, and self-esteem. While these measures have their value, I would suggest that longer, more in-depth and potentially open-ended interviews with diverse parties, especially the workers themselves, would give more insight into the changes or growth that programs are attempting to describe. For instance, Gowen (1990) used in-depth interviews to examine the underlying assumptions and beliefs of the learners, teachers, and program designers. In her study she reveals the ways in which employees were much more competent than they were assumed to be by their employers and literacy instructors. She argues that differences between workers and their supervisors were interpreted as deficits, with the result that people were defined as illiterate. Gowen used these interviews to illuminate the hidden complexities in and multiplicity of perspectives on how people learn.

In addition, the ways in which many programs judge their success reinforces an essentially Tayloristic view of work. This view, which is now thought to be outmoded,[12] introduced production methods which gave workers limited jobs requiring very specific skills that were endlessly repeated. Workers were to act like cogs in a machine without understanding or participating in production in the larger sense, thus making factories more efficient. New forms of work organization suggest the need for new ways of viewing learning and assessment as active—constructive processes rather than passive—receptive processes which involve the mastery of lists of skills. Flattened hierarchies in these reorganized companies will require that workers perform a wider variety of tasks and take greater responsibility for their work (Grubb, Dickinson, Giordano, & Kaplan, in press). While the organization of work is changing, the definitions of literacy, the conceptions of curriculum, and the means for teaching and testing at workplaces have not been significantly altered. Simply put, many of the companies in the United States which are establishing workplace education programs are using the classrooms of yesterday to teach for the workplaces of tomorrow.

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12 See, for example, SCANS (1992) which suggests that this form of work organization is being replaced with a more participatory, team-based approach, often referred to as "high performance." See also Commission on the Skills of the American Workforce, 1990; Grubb, Dickinson, Giordano, & Kaplan, in press; and Sarmiento & Kay, 1990.

This analysis of the common assumptions of workplace education programs and discussion of alternative ways of conceptualizing literacy, curriculum, teaching, and learning suggest the importance of taking a broad look at ways to set up workplace education programs. As workplace education programs become more prevalent across the country, it is critical that program designers explore and try out a wide range of possibilities, rather than accepting a single model for their design and implementation. To this end, the next section of this paper will propose several matrices that can be used to classify existing programs and to suggest a wide range of possibilities for future ones.

## CONCEPTIONS OF WORKPLACE EDUCATION PROGRAMS

This section contains several sets of matrices which are designed for a variety of purposes: to understand the range of existing programs; to emphasize the choices program designers face in establishing workplace education programs; and to collect information to evaluate current and future programs. These matrices are designed to be used by policymakers, program developers and managers, program evaluators, and researchers. For instance, funding agencies on the local, state, and federal levels might use these matrices to generate more effective requests for funding that promote real innovation and a diversity of programs. Program developers could use the matrices to assess and rethink their current programs and to plan future ones. The matrices would help those people involved in setting up and running programs to both gather information and to see where important information is missing or underdeveloped. In addition, these matrices are designed to point out both consistencies and inconsistencies within programs and to facilitate conversations among the various parties involved in making their programs work. These matrices could be used by program evaluators to encourage a more collaborative evaluation process which includes the involvement of all program participants. Finally, researchers might use the matrices for surveys of a number of programs and for more long-term and in-depth studies of individual programs. The matrices that I propose in this section should be considered provisional; new categories should be added as they are used. They are not meant as a final word, but rather as a template from which to imagine a range of possibilities for workplace education programs.

The first set of matrices uses definitions of literacy to classify programs. One version is to sort programs according to three conceptions of literacy:

1. literacy as skills

2. literacy as social and cultural practices

3. literacy as critique and social and political action

It is worth noting that many programs do not explicitly define literacy and that others utilize more than one definition of literacy. The use of these matrices might encourage program developers to articulate their working definitions of literacy. Table 2 illustrates the possibility of collecting and analyzing the conception(s) about literacy held by each participant in a program (both as individuals and as a group). Other definitions of literacy might be added to the matrix. Local terms or definitions of literacy might be added to the table.

**Table 2**
**Definitions of Literacy Held by Various Participants in a Workplace Education Program**

| | Literacy as skills | Literacy as social and cultural practices | Literacy as critique and social and political action |
|---|---|---|---|
| Learners | | | |
| Instructors | | | |
| Program directors | | | |
| Employers | | | |
| Union representatives | | | |
| Texts | | | |

This table could be used by a program to understand the various conceptions of literacy held by the participants in that program. It would assist a program to highlight the congruences and uncover inconsistencies among various program participants (cf., Gowen, 1990; Kalman & Fraser, 1992). In addition, it could be utilized to look across programs to track the dominant definitions presented by many different program directors. A more complex project would be to examine the definitions of literacy used by various project partners within a single program and across a number of different projects. For instance, the understandings of literacy by program directors, learners, and instructors

could be charted across a few different types of programs in similar workplaces or geographic regions.

The definitions of literacy could also be examined in conjunction with analyses of either curriculum or instructional methods. This might lend insight into the affects of particular definitions of literacy on program design and on actual teaching (see Tables 3 and 4). The first matrix (Table 3) uses a range of types of curriculum culled from the descriptions of workplace education projects. A single program might use one or more of these labels to describe its curriculum. Other curriculum types can and should be added; this is meant only to serve as a model of possible ways to construct a matrix. Similarly, for the second matrix (Table 4), I have suggested only a few, very broad instructional methods.

**Table 3**

**Definitions of Literacy and Types of Workplace Curriculum**

| | Literacy as skills | Literacy as social and cultural practices | Literacy as critique and social and political action |
|---|---|---|---|
| Basic skills | | | |
| Functional context | | | |
| Whole language | | | |
| Theme-based | | | |
| Worker-centered | | | |

**Table 4**

**Definitions of Literacy and Instructional Methods**

| | Literacy as skills | Literacy as social and cultural practices | Literacy as critique and social and political action |
|---|---|---|---|
| Traditional (teacher-directed) | | | |
| Participatory (learner-centered) | | | |
| Other forms of teaching such as apprenticeships | | | |

While certain predictable patterns would be expected when definitions of literacy are paired with either types of curriculum or instruction, the anomalies also would be notable. For instance, it would be expected that programs which use basic skills or functional context curricula would also use a skill-based definition of literacy. However, it would be interesting to examine the programs that use a participatory teaching approach or both a literacy as skills definition and a whole language curriculum. These tables also point to information that is often missing in program descriptions, and that is frequently not well-conceptualized by program developers. In their attempts to fill in these matrices, participants in workplace education programs will necessarily need to have discussions, if not make decisions, about issues related to teaching and learning.

Program directors can make comparisons and learn new information when they combine Tables 3 and 4 to examine the relationships between instructional methods and types of workplace curriculum (see Table 5).

**Table 5**

**Instructional Methods and Types of Workplace Curriculum**

| | Traditional | Participatory | Other forms of teaching |
|---|---|---|---|
| Basic skills | | | |
| Functional context | | | |
| Whole language | | | |
| Theme-based | | | |
| Worker-centered | | | |

Taken together, these three charts can be used to detect consistencies and inconsistencies across programs, to devise models of programs which emphasize certain characteristics, and to suggest new ways to conceptualize teaching and learning for workplace education programs. The matrices emphasize both the range of options available to programs and the importance of clear and consistent definitions of literacy, teaching, and learning.

A second set of matrices is based on *definitions of curriculum and curriculum development*. Two very general ways to construct and organize curriculum are (1) using lessons based on competencies to be mastered that are taught in a particular sequence and (2) using themes based on learners' interests which integrate skills into authentic reading and writing tasks. In addition, it is likely that the curricula of some programs would fall in both of these areas, and it might be useful to create a third, mixed category. Table 6 examines these two general types of curriculum organization in relation to a selection of classes that a workplace education program might offer to emphasize the relationship between course content and the way learning is structured. Table 7 highlights the relationship between these same ways to organize curriculum and the kinds of materials that are used by instructors. It can be utilized to explore the various ways curriculum construction and organization can be conceptualized.

**Table 6**

**Curriculum Organization and Courses Offered by Workplace Education Programs**

| | Lessons | Themes |
|---|---|---|
| GED | | |
| ESL | | |
| Basic skills | | |
| Math for SPC (statistic process control) | | |
| Communication skills | | |
| Learning to learn | | |
| Team-building | | |

**Table 7**

**Curriculum Organization and Types of Materials**

| | Lessons | Themes |
|---|---|---|
| Workbooks, textbooks, canned computer programs | | |
| Curricula developed by workplace education programs in the same industries | | |
| Teacher-made materials (collected from the workplace) | | |
| Materials collected and constructed through collaboration between teachers and learners | | |

These are not exhaustive lists of either the kinds of courses or types of materials. Instead, these matrices are meant to be representative of ways to conceptualize and analyze workplace education programs. Table 6, for example, can be used to analyze the kinds of courses offered by a range of workplace education programs and the broad ways in which curriculum is organized in each of these courses. Similarly, Table 7 points to the variety of

ways in which materials can be put together and suggests that the process of collecting materials from the workplace—the centerpiece of most programs' descriptions of their curriculum development—is only one way or one part of a process for constructing and organizing the curriculum.

Table 8 can be used to analyze the stages of curriculum development and the roles that various people or groups play in this process. Again, only representative steps in curriculum development are listed. There are various ways, including descriptions or scales, that the degree of each individual or group's participation could be noted in this matrix.

**Table 8**

**Program Participants and the Stages of Curriculum Development: Who Is Involved, When, and How Are They Involved?**

| | Employees/ learners | Instructors | Program directors | Managers/ supervisors | Union reps. |
|---|---|---|---|---|---|
| Deciding on the philosophy | | | | | |
| Planning | | | | | |
| Gathering materials | | | | | |
| Structuring lessons/ themes | | | | | |
| Instruction | | | | | |
| Assessment | | | | | |

It is helpful to conceptualize curriculum as intimately tied to both instruction and assessment. Curriculum development can be viewed as an ongoing process closely integrated with teaching, rather than a sequence of events that must occur before teaching can begin. This view of curriculum challenges conventional understandings of when and how various people can be involved in its development.

In addition, these different views of curriculum development—as set up ahead of time or as an ongoing process—can be used to examine and display the various types of curriculum that are possible (e.g., functional context curriculum or whole language curriculum) as illustrated in Table 9.

**Table 9**

**Processes for Curriculum Development and Selected Types of Curriculum**

| | Standardized (curriculum developed by outsiders, e.g. textbook company) | Written ahead of time (curriculum written before instruction begins) | Ongoing (curriculum development integrated with instruction and assessment) |
|---|---|---|---|
| Basic skills | | | |
| Functional context | | | |
| Whole language | | | |
| Theme-based | | | |
| Worker-centered | | | |

The matrix is likely to highlight both the limiting and expansive views of curriculum. For instance, most basic skills curricula would fall into the first or second categories, as either purchased from a textbook company or developed before actual instruction begins. On the other hand, most theme-based teaching is integrated with teaching and assessment, although there are textbooks which support this way of teaching. It is important to underscore that these are only very general categories; anomalies exist within and between each one. For instance, textbooks are being developed which promote interaction between instructors and learners and an ongoing process of curriculum development.

Table 10 emphasizes the relationship between types of curriculum and types of assessment procedures. Most programs indicated their frustration with standardized tests at the same time as they felt compelled to use them. A few programs developed and used alternative ways of assessing the progress of learners. It is useful to examine both the range of types of assessment procedures across programs and to correlate the uses of various assessment methods with the different types of curriculum found in workplace

education programs. In addition, like the others, this matrix points to the range of choices available to program developers.

**Table 10**

**Types of Curriculum and Assessment Methods**

| | Standardized tests (CASAS, TABE) | Informal assessment (questionnaires, profiles) | Ongoing assessment (portfolios, learning logs) | Other forms of assessment |
|---|---|---|---|---|
| Basic skills | | | | |
| Functional context | | | | |
| Whole language | | | | |
| Theme-based | | | | |
| Worker-centered | | | | |

Using definitions of curriculum to understand workplace education programs suggests both the range of ways that curriculum can be conceptualized and its connection to other aspects of teaching and learning. By providing a range of ways to understand curriculum and curriculum development, these matrices challenge the dominant ideology which suggests that a single type of curriculum—functional context curriculum—and a single process—literacy audits—are appropriate for all workplace education programs.

The next set of ways to conceptualize workplace education programs uses *definitions of teaching and learning* which programs utilize both in their planning processes and in the actual classrooms. Some general definitions of teaching which can be used to sort programs are as follows:

- text as the teacher
- teacher as the authority
- teacher as co-investigator

Programs which subscribe to the first definition use texts such as computer programs, workbooks, videodisks, and standard textbooks as the primary source of knowledge and thus, figuratively, as the teachers. In some instances, the role of the actual teacher is

reconceptualized as a manager for the learners who work independently with self-paced materials. The second definition refers to traditional, didactic teaching methods in which the teacher is the source of knowledge. The third definition views the teacher as a partner in learning or as a co-investigator who constructs meaning alongside, not for, the learner.

The second dimension which might be added to this matrix is definitions of learning. Two very broad conceptions of learning are (1) active construction of knowledge and (2) the passive reception of knowledge or the accumulation of skills. Table 11 combines these two dimensions.

**Table 11**
**Contrasting Conceptions of Teaching and Learning**

| | Active construction of knowledge | Passive reception of knowledge |
|---|---|---|
| Text as teacher | | |
| Teacher as authority | | |
| Teacher as co-investigator | | |

Most reports on workplace education programs do not include a close examination of the definitions of teaching and learning held by the various partners. This matrix provides a tool for program managers, instructors, and learners to describe the teaching and learning in their programs.

One of the requirements for workplace education programs who wish to receive federal funding is the establishment of a partnership. These partnerships are conceptualized in a variety of ways and the next set of matrices uses an examination of the *definitions of partnerships and participation* to shed light on the various possibilities available to programs. The matrix described in Table 12 provides an opportunity to look at the type and extent of involvement which various partners have in workplace education programs. Again, there are a variety of ways in which the information might be recorded in the matrix.

**Table 12**

**Involvement of Partners in Workplace Education Programs**

| | Employees/ learners | Instructors | Program directors | Managers/ supervisors | Union reps. |
|---|---|---|---|---|---|
| Initial conceptualization of program | | | | | |
| Ongoing advisory board | | | | | |
| Curricular planning and design | | | | | |
| Teaching | | | | | |
| Assessment | | | | | |
| Program evaluation | | | | | |

While most programs include project partners on an advisory board which may meet throughout the planning and instructional phases of a project, this table suggests a number of different aspects of the program which might be enhanced by the participation of various partners in the project. This table also emphasizes that the decision *not* to include various partners in particular aspects of the program should be a conscious choice, not an assumption.

A second way to look at the role of the partners in workplace education programs is to examine the nature of their involvement. For instance, program planners, researchers, or policymakers might ask the following questions:

- What is the nature of the input solicited from advisory board members?
- Are members of an advisory board asked to give advice?
- Are they given actual decision-making power?
- Are decisions made collaboratively?

As a result of this analysis, the various types of participation, not merely the fact of it, become important. Table 12 could be adapted to explore both the areas in which various partners are involved and the nature of their participation.

A final way to examine programs uses *definitions of success* to analyze and learn more about workplace education programs. Programs define success in a wide variety of ways including the following[13]:

- academic measures—improved skills (such as math, reading, problem solving, and communication)
- affective measures—improved morale and self-esteem
- organizational or company measures—manufacturing indexes such as increased productivity, improved product quality or scrap, lower operating costs, increased safety, better attendance, and promptness at work
- transfer of knowledge or skills learned in classes to job, home, and community
- high retention—a high number of employees who complete the program
- requests for more or continuation of classes
- better relationships at work—for example, between management and unions
- communitywide or national recognition

Matrices could be constructed which look at which programs list particular indicators of success, which examine the most common indicators of success, and perhaps most importantly, which explore the ways in which each of these indicators of success are determined. Finally, it is important to ask which indicators of success are *not* included on this list (and incidentally why they do not count).

Each of these matrices—based on definitions of literacy, curriculum and curriculum development, teaching and learning, partnerships and participation and success—offer a variety of ways of analyzing the current programs. These matrices suggest ways to classify programs in order to understand the decisions program directors make, the assumptions held by various partners, and the range and variation of programs across the country. Furthermore, these matrices offer many new ways for programs to conceptualize

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[13]These indicators of success are drawn mainly from *Workplace Literacy*, 1992. They also come from a survey of final performance reports of federally funded projects.

their purposes, and the ways of operating and assessing their programs. Finally, each of these matrices suggests new questions to be asked and new avenues to be explored.

## IMPLICATIONS FOR CONSTRUCTING AND EVALUATING PROGRAMS AND FOR RESEARCH

Numerous implications for research can be drawn from the discussion of workplace education programs. My hope is that these research questions will be useful for practitioners—to help present and future programs examine their assumptions as they make decisions about how to set up, operate, and evaluate programs; for policymakers—to set new directions for research and development of workplace education on local, state, and federal levels; and, finally, for researchers—to bring about new understandings of literacy theory, teaching, and learning through close examinations of workplaces and their educational programs. I will suggest some initial research questions according to the categories I used to construct the matrices—definitions of literacy, curriculum, teaching and learning, partnerships, and success.

An examination of definitions of literacy suggests the need for a thorough study of existing workplace education programs to understand the range of definitions of literacy which guide these programs. It would be important to collect these definitions not only from published program reports, but also from the various participants including the instructors and learners in a range of programs, and from observations. Furthermore, it would be important to study how definitions of literacy change as workplaces themselves are transformed. Many workplace education programs are begun on the premise that new forms of work require new literacies. We need to conduct in-depth qualitative studies of these new workplaces to understand what literacies are required for work, including the interactional as well as the technical practices.

Definitions of curriculum and curriculum development suggest the importance of developing several detailed models of processes for constructing curriculum, including how the curriculum is put together, who is involved, when various individuals or groups are involved, and the nature of their involvement. If curriculum is conceived of as an ongoing process, then the ways in which curricula change as they are enacted, in addition to the perceptions that various people have about the curriculum, need to be documented.

The exploration of definitions of teachers and teaching leads to research questions which take a close look at all aspects of teaching. As has been mentioned, programs rarely describe the actual teaching of workplace education classes. These questions are likely to be explored most effectively by teachers themselves. Teacher-research, defined by Lytle and Cochran-Smith (1990) as "systematic, intentional inquiry" (p. 84), has been used effectively in a range of settings as a means for teachers to explore their own guiding philosophies and varied ways of interacting with learners. In addition, an examination of a range of programs would provide information about both the diversity of roles teachers play in workplace education programs and the variety of definitions of teaching used by the same programs. Descriptions of the instructional models that exist and might be used in workplace education programs could provide valuable information to program planners and policymakers.

The use of definitions of learners and learning suggests questions such as Who are the learners who participate in workplace education programs?; What are their purposes and goals for participation?; What knowledge and practices do they bring with them to programs and what new knowledge and practices do they take away with them?; How do the participants go about learning on the job, at home, in their communities?; What are their beliefs about teaching and learning that they bring with them to the program?; How do these beliefs change during the course of the program? Researchers, practitioners, and policymakers interested in questions such as these might invite the learners in the program to participate in this research about themselves and their own learning.

This is only a preliminary list of questions for a research agenda. One recommendation is that programs begin to collect a broader range of material that includes information about their definitions of literacy, curriculum, teaching, and learning. Other research questions will require both surveys of a range of workplace education programs and in-depth and ongoing studies of a few programs. It is critical that these questions be explored and discussed among researchers, practitioners, and policymakers as the number of programs begins to proliferate across the country.

## CONCLUSION

The following drawing which accompanied an article in *Time* entitled "Literacy Gap" (Gorman, 1988) captures one perspective on workplace education programs commonly found in the media.

From *Time* (p. 56)

This drawing depicts a line-up of five European-American male workers wearing hard hats and overalls. The men are drawn without eyes. A sixth European-American man wears glasses and a suit. This professional man holds a pencil and is carefully drawing letters in place of the eyes of the blue-collar workers. He has drawn A and B on the first man, C and D on the second, and is in the midst of drawing the E and F on the third man. Beneath the drawing, under the article's title "The Literacy Gap," is the subheading "To close it—and to open the eyes of millions of workers—U.S. companies are spending hundreds of millions every year as educators of last resort" (p. 56).

This drawing reflects many of the common assumptions about workplace education programs explored in this article. First, there is a presumption about who the workers are —in the drawing the workers are identical, both in their backgrounds and their needs. Second, embedded in the drawing are assumptions about teaching and learning. The men stand passively in a row to receive the knowledge which is literally imprinted on them by another man who is different and presumably wiser (and who not only seems to already have eyes with which to see, but also wears glasses). The "suits" are handing out their knowledge to the "hard-hats." Third, the knowledge given to (written on) the workers is in the form of letters—decontextualized bits of information devoid of meaning. The subtitle of the article declares that the workplace education programs set up by U.S. companies will

"open the eyes of millions of workers," implying that only by participating in some kind of educational program will the male European-American worker (there are no women or people of color in the picture) truly be able to see.

In fact, the programs that have been established in workplaces are somewhat better than the caricature in the drawing. However, the drawing can be seen as emblematic of a particular conception of a workplace education program. Many, although not all, of the components of most workplace education programs are contained in the picture—the workers, the instructor, and the giving and receiving of knowledge. The picture, in effect, enacts a commonly stated goal of many programs: "to upgrade the skills of workers." The irony of the drawing, and a point that is critical, is that while the prose of the article describes a "crisis" that has been caused by advancing technology and newly organized workplaces, the solution proposed by the drawing which leads the article is one entrenched in antiquated understandings of teaching and learning. The matrices and analysis of *this* paper are meant to act as a springboard for program designers, participants, and evaluators to question the assumptions and "conventional wisdom" of workplace learning. In addition, these matrices will aid policymakers, funders, and researchers to identify a wide range of practices that will inform the guidelines of new policies and the emerging field of workplace literacy and education. Finally, it is hoped, these matrices will allow us all to celebrate what is being done well, and to build on those models in designing the educational programs of the future.

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## APPENDIX
## DOMAINS FOR ANALYZING WORKPLACE EDUCATION PROGRAMS

Project name (including source of information)

Project partners

Definition of workplace literacy (or comparable term)

Assumptions about literacy, learning, curriculum, instruction, assessment, learners, workers, and so on (both explicit and implicit assumptions—this might include the names of "experts" referred to in project descriptions)

Purpose(s) of the project

What parties were involved in establishing the classes? (e.g., community college, management, and unions, including type of industry and nature of involvement)

Who are the learners?

Nature of classes (e.g., schedule, location of classes, duration)

Type of classes (e.g., ESL or VESL, developmental reading, basic skills)

Process for developing curriculum (e.g., Who was involved? How was it developed?)

Overview of the curriculum

Instruction (including type of instruction, e.g., small groups, one-to-one tutoring)

Materials

Assessment procedures

Evaluation of the success of the project (e.g., criteria for evaluating success, including lessons learned, not necessarily grade level improvement)

Interesting or unusual aspects of the project (e.g., the population it serves, the pedagogy, and so on)

Notes and questions for follow-up